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U. S. DEPARTMENT OF ENERGY
ROCKY FLATS PLANT
ENVIRONMENTAL RESTORATION PROGRAM WEEKLY REPORT
WEEK ENDING FEBRUARY 12, 1993

Section I - Interagency Agreement

OU 1 - 881 Hillside

Assessment

A meeting requested by the regulatory agencies was held on February 8, 1993, to discuss the OU 1 Draft Remediation Investigation (RI). The regulatory agencies presented to Rocky Flats Office (RFO) and EG&G details on what they would like to see in the RI report.

A follow-up meeting was held on February 10, 1993, among the regulatory agencies, RFO, and EG&G to discuss EG&G's Program Management Plan (PMP) for addressing comments on the RI Report and the rewriting of the report. With a few exceptions, the regulatory agencies and RFO accepted the plan EG&G developed to respond to their comments on the RI Report and to revise the document to the requirements established by the regulatory agencies.

881 Hillside IRA Operations

The four drums of solid neutralized HCl in Building 891 have been consolidated into three drums. Landfill operations have approved shipment of two drums to the landfill. The remaining drum is presently being dewatered and is expected to be ready for shipment to the landfill by the end of February.

Engineering has started design work for the 881 Hillside French drain surface water monitoring stations. Performing the engineering "in-house" will potentially shorten the schedule by a couple of weeks. RFO has requested a completion date of April 1, 1993, for construction. A schedule is being prepared.

A proposal for the Operations and Maintenance (O&M) Manual for the OU 1 and OU 2 Treatment Facilities was completed. The technical evaluation will be submitted to Procurement by February 11, 1993.

Approximately 14,000 gallons of water were treated this week. Effluent Tanks 205 and 207 are empty, Tank 206 is approximately 75 percent full.

The total water collected to date is approximately 891,200 gallons; the total discharged treated water is approximately 800,500 gallons.

OU 2 - 903 Pad, Mound, East Trenches Area

Revision of the Phase II RCRA Facilities Investigation/Remedial Investigation (RFI/RI) Bedrock Work Plan - RFO is still formalizing a request to the regulatory agencies for a 7-month extension on the submittal of the OU 2 Phase II RI Report.

Technical Memorandum (TM) #7, *Final Surficial Soil Sampling Plan*, was submitted to the regulatory agencies. TM #7 provides the Field Sampling Plan (FSP) for the collection of surficial soil samples for the Human Health Risk Assessment (HHRA).

The "Super Task" subcontract Statement of Work (SOW) was not delivered to EG&G Procurement as scheduled. The SOW was delayed due to resolution of contract management issues, e.g., the required amount of negotiation during the duration of the contract.

Work continues on the RI Report for the characterization and the nature and extent of contamination.

RFO and EG&G received a briefing by the regulatory agencies concerning the OU 1 RI Report. on February 8, 1993. Expectations and requirements for the RI Report were presented to clarify issues for outlying OUs. EG&G is developing a PMP to address short-term programmatic issues as defined for OU 2 regarding the RI Report.

Surface Water IM/IRA

The bid for the Technical Evaluation of the Mobile Vapor Extraction Unit is proceeding. The Technical Evaluation is due to Procurement during the week ending February 19, 1993. A proposal from a Master Task Subcontract (MTS) bidder for the soil vapor survey has been received. The bid is being reviewed during the week ending February 12, 1993; the final contract will be released after negotiations are completed.

The SOW for the installation of soils vapor extraction wells, set up of the mobil vapor extraction unit, and completion of site tests has been developed. The SOW should be ready for bid proposal preparation by mid-February.

Surface Water Interim Measure/Interim Remedial Action (IM/IRA) Field Treatability Unit (FTU)

The FTU collected, treated, and discharged 135,400 gallons of surface water during the week ending February 12, 1993. Influent flows to the system have remained normal at about 9 to 10 gallons per minute (gpm).

Four drums of sludge were processed and packaged on February 4 and 5, 1993. Samples were obtained and will be sent to an offsite laboratory for analysis. The amount of sludge retained in the system was reduced to levels that eliminate the need to process and package sludge for at least the next 2 weeks.

Sample data from the diesel fuel spill that occurred on January 14, 1993, was received and validated. The results indicate that the material contains no Resource Conservation & Recovery Act (RCRA) constituents. Therefore, the 14 drums of material will be handled as non-hazardous waste.

Since the 250 kW primary generator was returned to service on January 28, 1993, after an engine overhaul, several mechanical problems have occurred. Repairs are being made under warranty. The installation of plant power to the FTU is being expedited.

OU 3 - Offsite Releases

Since November, the collection of surface soil samples has been limited by the unusually persistent snow cover. Soil sampling was not possible from November 20, 1992 through January 15, 1993. From January 19, 1993, through February 9, 1993, the snow cover melted enough to allow the sampling of 14 surface soil sample locations. The February 10, 1993, snowfall will once again interrupted surface soil sampling; sampling will continue as soon as weather permits.

A meeting was held on February 11, 1993, with the regulatory agencies and RFO to review the current status of the OU 3 project.

A meeting was held February 5, 1993, with representatives from the three organizations currently conducting studies on offsite contamination: the Colorado Department of Health (CDH) sponsored Health Advisory Board, Colorado State University (CSU), and RFO. The Health Advisory Board has criticized data generated by RFO and has discussed conducting confirmatory sampling. A proposal was discussed at the meeting to conduct shared soil sampling among RFO and CSU and to split the samples three ways. The three-way split of soil samples would be analyzed by CDH, RFO and a lab determined by the Health Advisory Board. A response from the citizens faction of the Health Advisory Board on this proposal is expected shortly. If the response is positive, the sampling could occur as early as this month.

The US Fish and Wildlife Service (USFWS) has identified a bald eagle nest northwest of Standley Lake. A meeting was held February 3, 1993, with the USFWS, EPA, Corp of Engineers, and RFO to discuss the various agency responsibilities under the Threatened and Endangered Species Act and the Bald Eagle Preservation Act. As a result of the meeting, RFO postponed all field activities within a mile radius of the nest. Fortunately, most OU 3 field activities have been completed with the exception of air sampling activities. The effect on the air sampling activities will be determined after consultation with the USFWS.

OU 4 - Solar Evaporation Ponds Phase I RFI/RI Program

All field activities have been completed in the buffer zone in accordance with the conditionally approved OU 4 Phase I RFI/RI Work Plan. In the event ground water is detected in any of the "dry" piezometer nests, EG&G will complete the remainder of the piezometer within the interior of the nest.

Two drilling rigs are now operating within the Protected Area (PA). One drilling rig is dedicated to analytical boreholes, and the other is dedicated to vadose zone boreholes. The analytical rig is currently operating within the radiologically controlled area (RCA).

On February 4, 1993, the analytical drilling rig was set up on borehole 43993 ready to drill and collect samples. As the mast was about to be raised on the drilling rig, the drilling operation was shut down due to a perceived safety problem that the drilling rig was too close to overhead power lines. The drilling rig was moved from the RCA to ensure that no drilling would take place. Borehole 43993 had been cleared for drilling, and it was determined at that time as not being too close to the power lines to justify ceasing drilling operations. This incident is under investigation.

OU 5 - Woman Creek

Work on the High Purity Germanium (HPGe) Survey at IHSS 133 is still temporarily stopped. The HPGe survey was to be used to determine optimal surface soil sampling sites. The completion of the survey was delayed so that the truck-mounted system could respond to a radioactive hotspot encountered in OU 1. The preliminary data is being used to generate TM #4, *Soil Sampling at IHSS 133*.

The Surficial Soil Sampling at IHSS 115 - Old Landfill, was completed on February 8, 1993.

The Draft Final TM #5, *Revised Soil Gas Sampling Plan - Original Landfill*, was approved on January 20, 1993, by CDH. A Response to Comments Summary form is being completed, and revisions to the TM are being made. EPA has given its approval on the TM, but the approval is contingent on responding to comments made by CDH concerning the TM #5.

Draft TM #6, *Cone Penetration Testing (CTP) and BAT® Sampling*, was conditionally approved by the regulatory agencies on February 8, 1993. The comments are being responded to in the comment and response format and will be submitted to the regulatory agencies during the week ending February 19, 1993.

Draft Final TM #7, *Soil Borings - Ash Pits*, was received by RFO on January 29, 1993.

TM #10, *Soil Sampling Plan - Surface Disturbance Areas*, was generated to amend the FSP at IHSS 209. This TM will propose a decrease in scope from the Work Plan because of an improved understanding of the site through aerial photo reviews. The regulatory agencies agree that the scope should be reduced; the TM is now being reviewed.

OU 6 - Walnut Creek

Soil borings and the monitoring well were completed in IHSS 143. Because of underground utilities and two overhead power lines, the locations of some of the borings in IHSS 143 needed to be adjusted. The spacing was decreased between borings because of many underground utilities crossing the IHSS and the proximity of the security-zone fenced area. This led to a limited available space for borings to be drilled and, therefore, only 7 of the proposed 11 borings were completed. The monitoring well was placed in one of the borings.

Soil sampling outside of the IHSSs is complete for the Environmental Evaluations (EE).

OU 7 - Present Landfill

The Cone Penetrometer Testing (CPT) rig continues to work inside the landfill on pre-BAT sampling activities. These activities include down-hole gas sampling with a photo ionization detector. The purpose of this is to select the intervals for the BAT system. This activity was completed by February 12, 1993.

Soil boring sampling within IHSS 114 began on February 10, 1993; one boring is complete. Approximately 10 percent of the landfill materials were recovered. The auger string was frequently wrapped in cables, plastic, and other debris during the operation. Recovery rates increased to nearly 100 percent once the weathered bedrock unit was reached. This was

expected and was consistent with previous activities within the landfill. Corrective measures are being addressed. Any actual trash that is cored is not being sent out for analysis in order to comply with data quality objectives and regulatory guidance. Trash will be bagged, described, and labeled with the boring number and the depth interval and then drummed separately from the other cuttings.

An additional drilling rig arrived onsite February 9, 1993. Both rigs will operate within IHSS 114.

OU 8 - 700 Area

Responses are being prepared to comments received from the regulatory agencies on January 15, 1993, regarding the OU 8 Final Phase I RFI/RI Work Plan. The regulatory agencies have requested that responses to comments and revisions to the Work Plan be submitted by February 26, 1993.

Development of OU 8 schedules and cost estimates to support development of the Five-Year Plan (FYP) began on February 5, 1993, and are still in progress. The FYP will outline the required work for FY94 through FY98.

OU 9 - Original Process Waste Lines (OPWL)

The SOW and procurement package were sent to EG&G Procurement for review and comments. The subcontract to begin nonintrusive investigations in conjunction with Industrial Area (IA) Integrated OUs will be awarded in April.

OU 10 - Other Outside Closures

On February 5, 1993, boundaries were marked for IHSS 170 and 174, as outlined in the OU 10 Phase I RFI/RI Work Plan. The marking was done to determine the materials that needed to be removed from these IHSSs. The boundaries of the 964 "laydown" area in the PA were identified. Physical markers will be placed around IHSS 176. To date, no materials have been moved out of the property utilization & disposal (PU&D) yard.

OU 11 - West Spray Field

The final version of the proposal to rescope OU 11 field activities was submitted to RFO for review on December 11, 1992. No response has been received regarding written guidance on this strategy. The proposed scope change will not impact FY93 funding although it will require funding shifts within the work package. CDH supported the outlined proposal plan and agreed to participate with rescoping. RFO approved submittal of the rescoping proposal outline.

OU 12 - 400/800 Areas

Work was completed on the SOW for the Integrated IA field activities. It is anticipated that a contract will be awarded for the IA field work in April 1993.

OU 13 - 100 Area

The OU 13 Work Plan was submitted to the regulatory agencies on the IAG scheduled milestone date, but the Work Plan was not approved pending the resolution of three major issues:

1. Settlement of the applicable or relevant and appropriate requirements (ARARs)/Chemical Benchmark Issues - A schedule and SOW were developed to revise the Benchmark tables. The goal is to have a corrected table delivered to the regulatory agencies as soon as possible. A meeting held on November 25, 1992, discussed the progress of this goal. The revised tables were completed and delivered on December 22, 1992, to the regulatory agencies. A meeting was held during the week ending February 5, 1993, with the regulatory agencies to review the tables.
2. Approval of a comprehensive surficial soils component to the FSP - Because soil sampling is not required in the IAG, this request for additional soil sampling adds to the scope and exceeds the budget. The Work Plan contains 54 surface soil samples, and this amount is enough to do a baseline risk assessment (BRA). The cost of these samples is estimated to be \$250,000. CDH has requested that a surficial soil sample be taken at every fourth HPGe or soil gas sampling location. This would expand the proposed sampling effort by 130 to 150 samples. Analysis of each additional sample will cost approximately \$3,800 or a total of \$570,000. A response to comments from CDH included a revised sampling plan, which is being prepared. The Los Alamos Technology Office (LATO) has offered to assist in reviewing the revised plan. An internal milestone of February 22, 1993, has been set to submit the revised Work Plan.
3. Receipt and approval of HPGe SOPs by the regulatory agencies - The HPGe SOP issue is still unresolved. A revised SOP was forwarded to the regulatory agencies on January 26, 1993, and CDH was concerned because all of their comments were not incorporated into the revised SOP. Meetings are scheduled during the week ending February 12, 1993, to rectify the problem. CDH is outlining their concerns in a letter.

Several of the IHSSs within OU 13 (IHSS #s 117.1, 117.2, 158, 186, 197) are used as storage areas for a variety of materials, such as scrap metal, building supplies, and other items. These items will need to be relocated out of the IHSSs in order for RI activities to begin. RFO plans to move the items in storage from one area to another during the nonintrusive activities.

The revised budget for FY93 is not fully adequate to meet the next IAG milestone date of August 8, 1994, when the OU 13 Phase I RFI/RI Report is due. However, considerable progress will be made on the nonintrusive activities. These activities include a visual inspection of the OU, surveying and grid location, HPGe, soil gas, ground water, and surficial soils sampling. All of these activities are being coordinated with the other IA OUs. A new work package has been prepared.

OU 14 - Radioactive Sites

The OU 14 Final RFI/RI Work Plan was scheduled for approval by the regulatory agencies on November 17, 1992. RFO was notified by the EPA that approval was being withheld until a scope and schedule for performing the IA/IRA Plan was agreed to by the regulatory agencies and RFO. Approval of the Work Plan has still not been received.

The final task deliverable for the OU 14 subcontract was a cost estimate for the implementation of the RI Work Plan. A draft version of this document was completed on February 3, 1993.

OU 15 - Inside Building Closures

The procurement process for obtaining a subcontractor to implement the OU 15 Phase I RFI/RI Work Plan is continuing. Subcontract negotiations will take place during the week ending February 19, 1993. Award of a subcontract for implementation of the Work Plan is expected during February 1993. Coordination of transition work, building operations, and use of Radiological Protection Technicians (RPTs) for implementation of the Work Plan is ongoing.

OU 16 - Low-Priority Sites

The No Further Action Justification (NFAJ) Document for OU 16 is still pending approval despite an expected approval date of November 20, 1992. RFO is exploring the next course of action. The issue that needs to be resolved between the regulatory agencies and RFO is whether the administrative process to close out this OU is complete at this stage or whether the process needs to be carried through to a Record of Decision (ROD). The Final NFAJ Document is the final action required by the IAG for OU 16.

EG&G Procurement requested the submittal of a Final Acceptance Report indicating that all work under the contract was complete and agreed and that no further work would be required.

Sitewide Activities

Industrial Area (IA) Integrated OUs

The SOW and purchase requisition for the IA OUs (8, 9, 10, 12, 13, and 14) are complete and are in the signature process. Procurement reviewed the SOW and returned comments on February 1, 1993. The completed SOW package will be delivered to Procurement on February 16, 1993.

Sample Management Office (SMO)

The SMO is the system that tracks the sample from collection to archive. This includes the technical interfaces, laboratory audits, contracting with laboratories, and data validation. SMO priorities are to provide adequate quantities and quality of samples to the laboratories, track and report on sample status, and provide technical support to Environmental Restoration (ER) Management on analytical issues.

Radiochemistry Queue - As of February 9, 1993, the backlog is 356 soil/sediment, 0 water, and 250 biota samples in the queue for radiochemistry analyses. An additional 50 fish are on hold for requisite contract modifications. If no additional soil samples are taken, current projections are that it will take 2.8 weeks to ship out the soils, allowing the SMO to be caught up by February 29, 1993. Given current sampling projections, however, the actual catchup date is March 15, 1993.

Samples shipped the week of January 25-29, 1993, for radiochemistry analysis included:

| | | |
|--------------|---|------------------|
| Ground water | - | 27 water |
| OU 3 | - | 15 soil |
| OU 6 | - | 7 water, 35 soil |
| OU 7 | - | 2 water, 20 soil |
| OU 5 | - | 2 water, 55 soil |
| OU 4 | - | 1 water |
| Decon Pad | - | 3 water |
| NPDES | - | 1 water |

Sitewide Treatability Studies

Seminar: Migration Barrier Cover Technology for Radioactive and Hazardous Waste Sites

Los Alamos National Laboratories (LANL) gave a seminar on the use of migration barriers as a means of containment for landfills and other environmental applications.

Sitewide Work Package (12192)

This work package supports the Sitewide Treatability Studies. The final revised work package was resubmitted on December 24, 1992. This work package supports the following treatability studies and other activities for FY93: Physical Separation (TRU/Clean); Chemical Separation (NRT); Potassium Ferrate Precipitation (TRU/Clear); Adsorption; Colloid filter polishing method (Techtran - SITE Demonstration); Annual Report preparation; work package management; Pondcrete Evaluation Report; Bioremediation literature search and technical proposal preparation; Colloid studies; flow pump testing; seep study; and the acquisition of an Inductively Coupled Plasma - Mass Spectrometer (ICP-MS).

Annual Report

The Sitewide Treatability Studies annual report is an IAG milestone. The annual report includes a summary of the status of each of the sitewide projects, a literature review of new and emerging technologies, and a summary of other relevant environmental projects at RFP.

Comments from RFO and other reviewers were transmitted to the subcontractor for incorporation into the FY92 report. The final report is due to the regulatory agencies on March 8, 1993.

Soil Washing Demonstration (NRT)

Nuclear Remediation Technologies (NRT), a subsidiary of General Atomics located in San Diego, California, has proposed to test its proprietary soil washing process on a sample of Rocky Flats plutonium-contaminated soil. The test work will be carried out with no charge to Rocky Flats other than the costs for obtaining and shipping the soil sample and for someone from EG&G to witness the test work.

NRT received the soil sample to be used in the test work on November 18, 1992. Initial work will consist of sample preparation (blending and splitting), characterization of the

particle size distribution of the sample, and a soil washing test. This test work began during the week of December 14, 1992. The results of this work will be used to determine "optimal" testing conditions.

Preliminary characterization data has been received from NRT, and this information will be used to plan the next round of test work.

Plutonium (pu) in Soils - Physical Separation (TRU/Clean)

The TRU/Clean process (physical separation) was identified in the Final Sitewide Treatability Plan for further test work and evaluation to determine how effectively it might remove plutonium contamination from Rocky Flats' soils. Initially this test work was planned to be a part of the Plutonium in Soils Integrated Demonstration (ID). However, the ID has been put on hold, and RFO has contracted with Lockheed Environmental Systems and Technologies Company to conduct testing of the TRU/Clean process with Rocky Flats Soils.

The Final Draft of the Treatability Study Work Plan and Responsiveness Summary to EPA comments were delivered to the regulatory agencies on February 10, 1993.

Results from the radiological screening samples indicate that the bulk samples (55-gallon drums) will exceed the 2,000 picocurie (pCi) limit. This indicates that the bulk soil sample should comply with 49 CFR Section A, Radioactive Material for Shipment and Packaging. The Traffic Department will ship the bulk samples if all packaging requirements are met.

Instructions on packaging and labeling the samples were received from the Traffic Department. The shipment will comply with low-level radioactive material regulations, and all soil must be shipped in white drums according to plant standards.

Instructions from the Waste Guidance Department is anticipated to be received during the week ending February 12, 1993. Since the Traffic Department did not ship anything on February 12, 1993, sampling must begin on February 15, 1993, to allow time for the necessary paperwork to be done properly.

The current estimate is that the bulk soil samples (four 55-gallon drums) will be shipped on February 22, 1993.

Colloid Polishing Filter Method (Techtran)

This process uses a proprietary chemical complexing agent to remove heavy metals and/or radionuclide contaminants from waste water or ground water. The contaminants are removed from the water by precipitation and filtration. Ultimately, the contaminants are contained in a dried filter cake and the treated water is returned to the environment.

Preliminary tests carried out at RFO in 1991 were favorable.

The direction from RFO is that EPA will support a site demonstration of this technology at RFP. EPA is currently preparing a Memorandum of Understanding (MOU) to transfer funding for this project to RFO. However, neither the exact amount of the time or the funding is known at this time.

Uranium Analyzer

The uranium analyzer has been installed and is operational in the treatability laboratory. Calibration studies have shown that the analyzer is capable of determining uranium concentrations on the order of 10 parts per billion (ppb). The uranium analyzer will be used to determine uranium concentrations in the influent and effluent streams from various treatability study projects. The results will be used to measure the efficiency of the treatability process for removing uranium.

Pondcrete Evaluation Report

The Pondcrete Evaluation Report is designed to evaluate the overall pondcrete press and to investigate potential treatment alternatives for the pondcrete material. The report is scheduled to be completed in August 1993.

A literature search on solidification/stabilization processes has been initiated. A key word search was conducted and the abstracts located are being evaluated for applicability at RFP.

Lockheed Plasma Melter

Lockheed Environmental has asked EG&G Rocky Flats to participate in a plasma melter demonstration project along with EG&G Idaho. The purpose of the project is to investigate the performance of plasma melting technology for the destruction of hazardous organic compounds in soils and to determine the characteristics of the vitreous waste form produced by the process. EG&G Rocky Flats will contribute some plutonium-contaminated soil for bench scale testing.

This test work was originally scheduled to begin in April. As of January 14, 1993, the test work was postponed until later in the summer because of contractual problems at EG&G Idaho.

Peer Review of Technology Selection Process

EG&G has authorized the Rocky Mountain University Consortium to begin a review of the Final Treatability Studies Plan with particular emphasis on the technology review and the selection processes. The review is based on a SOW prepared by Colorado State University (CSU).

EG&G met with CSU on January 27, 1993, to discuss the goals of the review process. This meeting produced a tentative schedule for the review work. Following are highlights of the schedule.

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|--|-------------------|
| • Form a review committee | February 12, 1993 |
| • Review the committee's evaluation and recommendations for the Technology Selection Process | March 19, 1993 |
| • Draft of technology screening results | April 19, 1993 |
| • Comment on EG&G/RFO draft | May 3, 1993 |
| • Receive final document from Consortium | June 15, 1993 |

Oxidation/Reduction

Oxidation/Reduction is one of the technologies identified in the Final Sitewide Treatability Plan for further test work and evaluation to determine how effectively it might remove various contaminants from surface and ground water at RFP.

The final Work Plan was sent to RFO for review on November 13, 1992. This project has been placed on hold under direction from RFO. Consequently, the revised version of the Sitewide Treatability Studies Work Plan does not contain funding for this project for FY93.

Magnetic Separation

High Gradient Magnetic Separation (HGMS) is one of the technologies identified in the Final Sitewide Treatability Plan for further test work and evaluation to determine whether it might effectively remove plutonium from contaminated soils. EG&G identified LANL as the most appropriate place to carry out this test work. Since the project is a sole source procurement award, the project is under RFO review. RFO requested that additional information about this project be provided. The information was sent on September 16, 1992. No final word on a tentative approval date has been received.

Continued revision of the Sitewide Treatability Studies work package has eliminated the FY93 funding for this project.

NREL Request for Proposal for Solar Detoxification Demonstration Project

In November 1992 it was decided to submit a response to a request for proposal from the National Renewable Energy Laboratory (NREL). The request for proposal is titled "Development of a Demonstration System for Solar Water Detoxification."

The proposal calls for a cost sharing arrangement with a maximum contribution from NREL of 70 percent of the demonstration costs. EG&G will participate in a joint submittal with SAIC and Radian, Inc. If this proposal is one of those selected by NREL, the project would start in the spring of 1993. Expected total cost of this proposal is \$100,000. EG&G's portion of this project cost would be \$15,000 plus man hours for onsite support. The revised Sitewide Work Package includes funding for this project.

A problem has arisen in the terms of the request for proposal (RFP). The proposal does not allow NREL to cost share with other federal money (i.e., EG&G). The proposal will be resubmitted to NREL as an unsolicited proposal that will not be subject to the restrictions of the RFP.

Inductively Coupled Plasma (ICP) Mass Spectrometer (MS)

The revised work package for the Sitewide Treatability Studies Program now contains funding to purchase and install an ICP-MS in the Treatability Laboratory in Building 881. The addition of this equipment will significantly increase the analytical capability of the laboratory and will result in lower analytical expenses and faster turnaround time for treatability studies conducted in the future.

RFO has given approval to purchase the ICP-MS, and Procurement has sent out the appropriate bid packages. According to the vendor, there is currently a 4-month delivery time, with the expected shipment date in early June. This is a delay of over 3 months from what was originally planned. Based on the quoted delivery date, the immediate impact is that the ICP-MS will not be ready for use to analyze the products from the adsorption treatability study that is scheduled to begin in June. This could result in delaying completion of the adsorption project caused by longer turnaround times for samples sent offsite for analysis.

Status of Treatability Laboratory in Building 881

A Treatability Study Laboratory is being developed at RFP. The laboratory will be used to conduct some of the treatability studies for the Sitewide Program. The laboratory is ready for experimental work. The first work scheduled to be carried out is the TRU/Clear (potassium ferrate precipitation) Treatability Study. This work is tentatively scheduled to begin in early March 1993 as soon as the Work Plan is completed and approved.

TRU/Clear

TRU/Clear is the brand name for a proprietary precipitating agent based on the use of ferrite ions. The TRU/Clear process belongs to a company named ADC, located in Colorado Springs. Preliminary test work carried out at RFP has shown favorable results.

The contract with Acculabs to do the analytical work has been approved and is now in place. A Work Plan for the test work is being written and is scheduled to be completed by the end of February. Once the Work Plan is completed and approved, the test work will begin in the treatability laboratory in Building 881.

Sitewide Treatability Studies on Ion Exchange and Adsorption

Ion Exchange and Adsorption are two of the technologies identified in the Final Sitewide Treatability Study Plan for further test work and evaluation to determine how effectively they might remove various contaminants from surface and ground water at RFP.

After reviewing 95 percent of the document, it was determined that the Final Sitewide Treatability Plan does not meet EG&G's expectations. The subcontractor had not incorporated comments from earlier reviews, and the test plan did not meet technical expectations. The document is being reworked to include all comments made to date. The corrected version of this document is scheduled for early March 1993. If this version is acceptable, it will be forwarded to the regulatory agencies for their review and comment.

Bioremediation

The regulatory agencies have requested that RFO consider bioremediation as a potential technology for use at RFP. Bioremediation covers a broad area of topics, and a literature review of only topics that apply to RFP is being explored. Extensive computer searches are under evaluation for key articles and reviews. An outline of significant topics is being prepared as the first step to writing a summary report based on the literature study.

Other Activities

ADS Development

Development of the database for the FY95 - FY99 ADSs/Five-Year Plan is continuing. A draft of the schedules and budgets for FY93 - FY99 was completed on February 11, 1993. The individual ADS managers will review and comment on the schedules and budgets. Preparation of the ADS write-ups will be complete by February 17, 1993.

IAG Amendment

RFO and EG&G personnel met on February 5, 1993, to discuss the next step in proposing an amendment to the IAG. The development of recommendations is continuing. A presentation representing RFO recommendations and strategy will be made to HQ in the near future.

RFP ER Management Plan

The draft ER Management Plan is being revised according to EG&G review comments. A revised Project Management Plan was received that will require further modifications to the Management Plan.

Integrated Roadmap

The preparations necessary to begin drafting the Public Involvement Plan are in progress. The Integrated Planning Steering Committee (IPSC) was briefed on the Total Quality Management (TQM) Process to determine the extent of its relevancy to this project. A TQM representative was requested to attend future IPSC meetings.

ER 1993 Management Action Plan

Three contractor representatives from EM-43 Management Action Plan Team visited RFP on February 9-10, 1993, to collect data for the ER 1993 Management Action Plan. RFP responses and draft action plans for 51 findings from FY92 program reviews and audits were covered. The findings were from reviews by the General Accounting Office (GAO), the Interagency Review Group (COE and OMB), EM-20 Office of Self-Assessment and Oversight (CQMA), and the EM-40 Independent Review Group. A draft of the RFP Management Action Plan is scheduled for completion by February 16, 1993. Comments on the draft plan must be submitted to HQ by February 26, 1993.

FY92 CQMA Review

Representatives from RFO and EG&G met with staff from the EM-20 Office of Self-Assessment and Oversight on February 8, 1993, to review the draft responses by the CQMA team to RFP's draft Action Plans prepared in response to the FY92 CQMA Review findings.

Drum Management

RCRA Unit 18.03 has 66 OU 1 and 75 OU 2 drums stored in it with 21 of the 141 having detectable water. Fifteen white 55-gallon drums were shipped from Real-Time Radiography, (RTR), Building 664, to RCRA Unit 18.04. The 25 white drums from RCRA Unit 18.03 showed no free liquids when RTRed at Building 664. Twenty-five gray 55-gallon drums from OU 2 are awaiting RTR at Building 664.

At the present time, 30 drums from OU 2 are awaiting shipment to Building 664 for RTR. There are 1,470, 55-gallon drums and 1099, 30-gallon drums for a total of 2569 environmental gray drums in the field. The monthly and weekly drum inspections are continuing for the month of February. The 90-day RCRA Unit 1940, for environmental drums, is set up in the Contractors Yard, and 90 OU 2 drums and 127 OU 5 and OU 6 drums are also being stored there.

Buffer Zone

The unknown object found in the buffer zone was RTRed at Building 664; no liquids were detected in it. The object, positively identified as a fire extinguisher by the fire department, was cut up and will be shipped to PU&D with the next shipment of scrap metal for recycling.

Non-PA Waste Generators

Three more personnel were qualified as Non-PA waste generators for RCRA Unit 1890. This brings the total of certified Non-PA waste generators to five.

Hour Meter Installed in Building 891

A hour meter was installed in the control circuit for pump P100 in Building 891 this week. The meter will record all the time the pump motor runs, regardless if the controls are in automatic mode or overridden in the hand or manual position. The meter's smallest recordable time element is in tenths (1/10) of an hour. This action fulfills a request made by RFO.

The PLC-5 that controls all of this equipment has the ability to provide the date, time, and possibly the run time duration for this pump. It will require a large program addition and take awhile to put together, but this is in the planning stages and will further complement the hour meter in providing the run time history requested by RFO.

Computer Upgrades

Progress has been made with the computer upgrades for the area, and various fixes have been made. No computer viruses have shown up since the last "FORM" infection.

Public Service Company (PSCO) Meeting

A meeting with the PSCO was held on February 11, 1993, to discuss volt-amp (VA) load requirements at Surface Water's Pond A-4 site. This will determine the size of uninterruptible power supply (UPS), a true UPS, not battery backup, that would be necessary to carry the site load. This is a follow-up to the power problems that occurred in the past. Surface Water intends to pay for all the equipment and information upgrades that go with the package.

Main Decontamination Facility (MDF)

Operations of the MDF were normal through the work week. Environmental and radiological readings were found to be at background levels.

Inspection of the trenching and installation of electrical lines to supply permanent power to the MDF has not been accomplished. It is unknown when the inspection will be complete. Information on the handling of the decon waters and sludges from the MDF was gathered and

submitted to RFO. An inspection of the facility was held with CDH and RFO on February 12, 1993.

PA Decontamination Facility

The status of the Operational Ready Review (ORR) Checklist for the PA Decon Pad is as follows: Design control specifications, NEPA review documentation, inspection records, organization structure, the SOW, and the Engineering Job Order (EJO) have been acquired and are on file in Trailer 891E. Training records, decon pad checklists, Standard Operations Procedures, and the Health & Safety Manual are located in Trailer 891R. This was part of the ORR Checklist requirement. A letter is being prepared by a subcontractor stating that the PA Decon Pad is ready to operate under the ORR guidelines.

Electrical Power Shutoff

On February 13, 1993, electrical power will be shut off to accomplish repairs on the 13,800-volt electrical distribution system. This outage is anticipated to last approximately 11 hours. Included with the many buildings that will be affected, are the 61-meter and 10-meter Meteorological Monitoring Towers. Both towers employ battery backup capabilities and should maintain normal operation with the exception of the 61-meter aircraft warning beacon. SOPs dictate that prior to a scheduled outage of this nature, Jefferson County Airport should be advised of the event. EP/AQD has been notified of this power interruption. This area is to be used for drum storage and a lay-down area for equipment, rigs, health and safety shed, office trailer, and vehicles. Arrangements are being made with the construction company on the relocation of the material that is being stored in this lay-down area.

The screw joints going into the sediment tanks have been repaired. After a second leak test, it was observed that the gasket was missing around the fittings and there was still a leak problem. Action is being taken to get the construction company to return and fix the problem.

Section II - Solar Ponds Remediation Project

Regulatory issues

RFO has transmitted the revised milestone dates for the Interim Measures/Interim Remedial Action (IM/IRA) remediation to the regulatory agencies. This week, RFO and EG&G met with the regulatory agencies to explain the details of the schedule and discuss related issues. Further meetings will be needed to help the regulatory agencies fully analyze RFO's schedule.

The regulatory agencies informed RFO that they intend to pursue their interpretation that the IM/IRA is part of the IAG. They intend to enforce the dates they eventually approve on that basis.

RFO and EG&G staff met to review the delisting strategy for Pondcrete. Results from the meeting were incorporated into a SOW for contracting with a firm with delisting experience. The SOW and the rest of the procurement package were delivered to EG&G Procurement for action. The contract is planned to be awarded by March 21, 1993.

Pondsludge Status and Issues

Baseline life cycle cost estimate, schedule, and narrative are completed. The schedule goes through FY2002 and the life cycle estimate is approximately \$550 million. The baseline uses the Halliburton-NUS (HNUS) technology, which solidifies Pond 207C in FY94 and Pond 207B in FY95 and remix after NTS opens (assumed to be December 1997). The schedule shows that processing during one warm season (starting with Standard Operations (SO) testing on April 1, 1993) is extremely tight given the review cycles for readiness assessment by both RFO and EG&G. There is a high risk that this schedule will not be met because of the review cycles and the potential reviews by outside RFO oversight groups.

Pond Operations/Storage Status and Issues

Efforts to complete the MOU, which defines the authority and responsibilities for Solar Ponds Project Office (SPPO) and organizations that function with SPPO, have been delayed. Draft matrices have been completed.

Various discussions were held regarding identification of the responsible organization for performance of the storage pad study. It was decided that Waste Programs should take the lead for this action. A draft suggested format was submitted on February 4, 1993; a final was submitted on February 5, 1993. The conclusions of this study must be available by February 15, 1993, for inclusion in option analysis, which will define the future program strategy. Storage of triwall containers on the 904 Pad does not conform to the requirements of RCRA Sub-Part I. The containers are in very poor condition and insufficient aisle space is provided. Corrections can be affected by application for interim status as a waste pile. Best management practices, however, will require action even if a waste pile application is favorably considered. Additionally, we will remain out of compliance while the application is pending.

Water Management Status and Issues

A meeting was held during the week ending February 12, 1993, where the schedule for Water Management activities was reviewed in detail with the regulatory agencies. At the meeting it was agreed to recalculate the finish date for excess water removal from the ponds assuming both the B-910 and B-374 Evaporators were used. SPPO also agreed to provide the plan, schedule, and rationale for sludge consolidation. A follow-up meeting is planned during the week ending February 19, 1993.

Section III - Surface Water Management

Comprehensive Water Management Strategy Meeting

RFO attended a briefing on February 10, 1993, on a proposed Comprehensive Water Management Plan. Strong opposition was expressed by EG&G to the proposed plan that would duplicate previous work on the Surface Water Management Plan, Zero Discharge Studies, and current IM/IRA process, and attempt to integrate surface water management with proposed Process Waste Water Management actions. RFO concurred that surface water management was under control and to prepare a new plan was unnecessary.

Discharging Pond A-4

RFO has given approval to initiate discharge of Pond A-4 beginning on February 13, 1993. The discharge will continue through February 26, 1993.

Inspection of Modular Tanks and Drainage Pad Area

An inspection of the modular tanks and drainage pad area for OU 4 was conducted. Issues are being resolved regarding the leak testing for these tanks.

C-2 Recycle Project

A cost estimate was completed for construction of a second (750,000 gallon) raw water pond that will be located downstream of the existing raw water pond on the west side of the plant and would be used for storage of only industrial raw water. This potential project supports the C-2 Recycle Project and other OU projects by separating the domestic and industrial water supplies allowing long-term recycling of various water effluents.

Section IV - Transition/Decontamination and Dispositioning

Section V - Meetings

OU 1 - 881 Hillside

A meeting requested by the regulatory agencies was held on February 8, 1993, to discuss the OU 1 Draft Remediation Investigation (RI). The regulatory agencies presented to RFO and EG&G details of what they would like to see in the RI report. A follow-up meeting was held on February 10, 1993, among the regulatory agencies and EG&G to discuss EG&G's management plan for addressing comments and rewriting the RI Report.

OU 3 - Offsite Release - A meeting was held February 5, 1993, with representatives from the three organizations currently conducting studies on offsite contamination: the CDH sponsored Health Advisory Board, RFO, and CSU.

A meeting was held February 3, 1993, to discuss the identification by the US Fish and Wildlife Service (USFWS) of a bald eagle nest northwest of Standley Lake. The USFWS, EPA, Corps of Engineers, and RFO discussed the various agency responsibilities under the Threatened and Endangered Species Act and the Bald Eagle Preservation Act.

Handling and Management of Investigative Derived Wastes (IDWs)

A meeting and tour were scheduled for CDH representatives on February 12, 1993, concerning the handling and management of IDWs. An SOP is in development, but several points are still unresolved.

Water Management Status and Issues

A meeting was held during the week ending February 12, 1993, where the schedule for Water Management activities was reviewed in detail with the regulatory agencies. A follow-up meeting is planned during the week ending February 19, 1993.

Section VI - Future

Solar Ponds Remediation Program (SPRP) Briefing

The SPRP presented the regular monthly briefing to HQ in Washington, D. C., on January 28 and 29, 1993. The results of the recent work package re-evaluations were reviewed and HQ personnel approved an additional \$3.5 million required for complete FY93 funding. An update was also presented on the Systems Analysis for pond sludge processing options. This

analysis will identify the preferred path forward for OU 4 activities. A final briefing on the SP Systems Analysis Study is scheduled for March 9, 1993, at HQ.

Community Relations

Upcoming Public Meetings

| | |
|-------------------|---|
| February 23, 1993 | Environmental Surveillance Exchange of Information Meeting, at 1:30 p.m., at Broomfield City Council Chambers, Garden Center #6, Broomfield. |
| February 25, 1993 | Environmental Restoration and Waste Management Five-Year Plan FY1994-1998 Public Information Meeting, from 7:00 p.m. - 9:00 p.m., at Ramada Hotel, 8773 Yates Dr., Westminster. |
| March 3, 1993 | The Fundamentals of Radiological Risk Assessment at the Rocky Flats Plant, Sponsored by EPA, CDH, RFO, and EG&G Rocky Flats, Session 1 - Fundamentals of Radioactivity by Dr. T. Borak, CSU and Fundamentals of Radiobiology by Dr. G. Roessler, University of Florida, at 7:00 p.m. - 9:00 p.m., at Denver Marriott West, 1717 Denver West-Marriott Blvd., Golden. |
| March 10, 1993 | Environmental Restoration and Waste Management Five-Year Plan Public Comment Meeting, from 7:00 p.m. - 9:00 p.m., at Ramada Hotel, 8773 Yates Dr., Westminster. |

March 11, 1993

Health Advisory Board Meeting, sponsored by CDH.
Topic: Phase II Health Study, from 6:00 p.m. -
8:00 p.m., Ramada Hotel, 8773 Yates Dr.,
Westminster.

March 13, 1993

Rocky Flats Health Risks: The Science Behind the
Issues. Free and open to the public. An educational
symposium sponsored by the School of Medicine and
the Center for Environmental Journalism of the
School of Journalism and Mass Communication at
the University of Colorado. Limited Space Available.
Call 232-1966.

March 16, 1993

The Fundamentals of Radiological Risk Assessment
at the Rocky Flats Plant. Sponsored by EPA, CDH,
RFO, and EG&G Rocky Flats. Session 2 - Data
Collection/Evaluation and Exposure Assessment by
B. Lavell, EPA and Toxicity Assessment by M. Boyd,
EPA and Radionuclide Risk Characterization and
Risk Management by Rick Roberts, EG&G Rocky
Flats, 7:00 p.m. - 9:00 p.m., Denver Marriott
West, 1717 Denver West - Marriott Blvd., Golden

March 23, 1993

Quarterly Environmental Restoration Public
Information Meeting, at 7:00 p.m. - 9:00 p.m.,
Ramada Hotel, 8773 Yates Dr., Westminster.

Near-Term FY93 IAG Table VI Milestones Scheduled for Delivery from RFO to
EPA/CDH:

| <u>QJ</u> | <u>Milestones</u> | <u>Date Due to EPA/CDH</u> |
|-----------|--------------------------------------|----------------------------|
| Sitewide | Annual Treatability Study Report | Mar 8, 1993 |
| 02 | Draft Phase II RFI/RI Report | Mar 12, 1993 |
| 01 | Submit Final Phase III RFI/RI Report | April 2, 1993 |
| 01 | Draft CMS/FS Report | *Jun 29, 1993 |

*Recently extended from March 31, 1993, with agency approval.